

CLAIMS

1. A method of determining a transmit power in a cellular communication system comprising a first cell including an inner zone served by a first carrier and an outer zone served by a second carrier; the method comprising the steps of:

receiving measurement reports from a plurality communication units of the cell; the measurement reports comprising receive characteristics for a signal associated with the cell;

generating a distribution of the receive characteristics;

determining a modified transmit power level in response to the distribution of the receive characteristics; and

determining a cell transmit power associated with the first carrier in response to the modified transmit power level.

2. A method as claimed in any previous claim wherein the receive characteristics comprise signal receive levels.

3. A method as claimed in any previous claim wherein the receive characteristics comprise signal quality characteristics.

4. A method as claimed in any previous claim wherein the step of determining the modified transmit power comprises determining a modified transmit power level for which a ratio of receive characteristics of the distribution are above a receive characteristic threshold.

5. A method as claimed in claim 4 further comprising the step of determining the ratio in response to a desired traffic ratio of the inner zone.

6. A method as claimed in claim 4 further comprising the step of determining the ratio in response to a substantially full loading of the inner zone.
7. A method as claimed in claim 4 further comprising the step of determining the ratio in response to an average traffic of the cell and a number of carriers supporting the cell.
8. A method as claimed in any previous claim 4 to 7 wherein the receive characteristic threshold is a predetermined receive characteristic threshold.
9. A method as claimed in any previous claim 4 to 7 further comprising the step of receiving a user input and setting the receive characteristic threshold in response to the user input.
10. A method as claimed in any previous claim 4 to 7 further comprising the step of determining the receive characteristic threshold in response to a required quality level.
11. A method as claimed in any previous claim further comprising the step of determining the receive characteristic threshold in response to a required interference level.
12. A method as claimed in any previous claim wherein the step of determining the modified transmit power level comprises determining a receive characteristic reference value of the distribution corresponding to the ratio, and determining the modified transmit power level in response to the difference between the receive characteristic reference value and the receive characteristic threshold.

13. A method as claimed in any previous claim wherein the step of generating the distribution comprises normalising the receive characteristics to a reference transmit power.
14. A method as claimed in claim 13 wherein the step of generating a distribution comprises compensating the receive characteristics for a power control setting.
15. A method as claimed in claim 14 wherein the power control loop comprises a fast power control loop and a slow power control loop and the compensation of the receive characteristics is associated with only the fast power control loop.
16. A method as claimed in any previous claim 13 to 15 as dependent on claim 12 wherein the cell transmit power level is determined as the reference transmit power subtracted by the modified transmit power.
17. A method as claimed in any previous claim further comprising the step of setting a transmit power of the first carrier to substantially the cell transmit power.
18. A computer program enabling the carrying out of a method according to claim 17.
19. A record carrier comprising a computer program as claimed in claim 18.
20. An apparatus for determining a transmit power in a cellular communication system comprising a first cell including an inner zone served by a first carrier and an outer zone served by a second carrier; the apparatus comprising:

means for receiving measurement reports from a plurality of communication units of the cell; the measurement reports comprising receive characteristics for a signal associated with the cell;

means for generating a distribution of the receive characteristics;

means for determining a modified transmit power level in response to the distribution of the receive characteristics; and

means for determining a cell transmit power associated with the first carrier in response to the modified transmit power level.

21. A cellular communication system comprising an apparatus as claimed in claim 20.